

SAFETY DATA SHEET

Mineral Sands Tailings



1. IDENTIFICATION MATERIAL SUPPLIER

Product Names: Mineral Sands Tailings
Other Names: Sand Tailings, Tailings
Uses: Material remaining after mineral extraction. Landfill or landscaping
Company: RZ Resources Ltd
ABN 23 160 863 892
Address: Level 7, 10 Eagle Street,
Brisbane, Qld 4000
Australia
Telephone: +61 1300 735 386
Email: products@rzresources.com
Web: <https://rzresources.com/>
Emergency Contact: +61 408 907 889 (24 hours)

2. HAZARDS IDENTIFICATION

Mineral sands tailing's dust contains a small amount of respirable crystalline silica which is classified as hazardous according to SafeWork Australia and the Global Harmonised System of classification and labelling of chemicals (GHS).

Classified as Non-Dangerous Goods according to the Australian Code for the Transport of Dangerous Goods (ADG) by Road and Rail

Hazard Statement(s):

H332 Harmful if inhaled

3. COMPOSITION / INFORMATION ON INGREDIENTS

Ingredients (typical)	CAS Number	Concentration
Quartz	14808-60-7	>75%
Rutile	1317-80-2	10-15%
Kaolinite	1318-74-7	5-10%
Ilmenite	12168-52-4	3-5%
Zircon	14940-68-2	3-5%

4. FIRST AID MEASURES

Swallowed:	First aid is unlikely to be required but, if necessary, wash mouth out with water ensuring the mouthwash is not swallowed. Give one or two glasses of water to drink. Seek medical attention if a large quantity has been swallowed.
Inhaled:	Blow nose to remove particulates from nose. Move to area with fresh air. Seek medical attention if adverse reaction develops.
Skin:	Remove contaminated clothing gently to avoid creating dust. Wash skin. If skin becomes irritated, seek medical attention. Launder affected clothing before re-use
Eye:	Hold eyelid open and flush with clean water. Continue until grit is removed. Seek medical attention if irritation or soreness persists.

Acute

Swallowed:	Non-toxic. No known detrimental effect from accident ingestion as may occur during normal handling. Ingestion of large amounts may cause irritation to the gastro-intestinal system due to abrasiveness.
Inhaled:	Mainly regarded as nuisance dust but may be irritating if inhaled at high concentrations. May cause coughing and/or sneezing.
Skin:	Low hazard.
Eye:	Solid and dust can be moderately irritating due to abrasiveness.

Chronic

Radiation:	<p>Mineral sands tailings contain naturally occurring radioactive elements of the uranium and thorium series. The mineral sand tailings produced by RZ Resources Ltd contains low concentrations of these impurities with a typical specific activity of approximately 2 Bq/g of combined uranium and thorium.</p> <p>Daughter products are present, usually at equilibrium concentrations but the main radiological hazard is internal dust. As a guide, continuous worker exposure to respirable dust levels above 3.5mg/m³ could give rise to annual internal exposures above 1 mSv.</p> <p>External exposure is from gamma radiation. Continuous exposure (2000 hours per year) within 2 meters of bulk tailings could give rise to an annual external dose above 1 mSv.</p>
Silica:	Crystalline silica is a known cause of lung fibrosis (silicosis). It has also been classified as a human carcinogen. Mineral sands tailings contain small amounts of respirable free quartz and precautions should be taken to avoid inhaling the dust.
First Aid Facilities:	Eye Wash Station
Doctor Treatment:	Treat symptomatically

5. FIRE FIGHTING MEASURES

Non-flammable, non-combustible. Use suitable firefighting measures for the surrounding fire.

6. ACCIDENTAL RELEASE MEASURES

Emergency Procedures:	Not relevant
Containment and Clean-up:	Wear safety equipment for normal handling. Avoid generating dust. Vacuum up, if possible, otherwise sweep up and recycle. If the spilled product is not suitable for re-use, dispose of to an approved landfill site and cover with clean fill.

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7. HANDLING AND STORAGE

Handling: Dust generation should be minimised when handling. Wash thoroughly after handling.
Storage: Storage areas should be ventilated.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

National Exposure Standards (Source: Safe Work Australia):

Ingredient	TWA (mg/m ³)	STEL (mg/m ³)
Titanium dioxide	10	-
Respirable silica (quartz)	0.05	-
Zirconium compounds (as Zr)	5	10
Uranium	0.2	0.6

Biological Limit Values: No information

Engineering Controls: Ventilation requirements will depend on handling methods and the amounts in use, but should be sufficient to maintain dust levels below exposure limits.

Personal Protective Equipment: Safety glasses or goggles.

Where engineering and handling controls are not sufficient to minimise exposure to total dust and to respirable crystalline silica, personal respiratory protection may be required. The type of respirator depends on dust levels and exposure time. For low level dust a P1 or P2 mask is sufficient. When dust approaches the National Exposure Standards limits then a more efficient cartridge type or powered respirator should be used.

9. PHYSICAL CHEMICAL PROPERTIES

Appearance: Cream coloured free running sand
Odour: Odourless
pH: Neutral
Vapour Pressure: Not applicable
Boiling Point/Range: Not applicable
Melting Point: Rutile 1850°C, Quartz 1700°C, Zircon 2200°C
Solubility: Insoluble
Bulk Density: 1500 kg/m³
Flash Point: Not applicable
Flammability Limits: Not applicable

STABILITY AND REACTIVITY

Reactivity: Inert
Chemical Stability: Stable
Incompatible Materials: None known
Decomposition Products: Decomposition will not occur

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10. TOXICOLOGICAL INFORMATION

Long Term Effects of Inhalation: Long term inhalation of respirable silica dust at levels over the NES guidelines carries the risk of causing serious and irreversible lung disease such as bronchitis and silicosis.

11. ECOLOGICAL INFORMATION

Very low risk of environmental damage. Insoluble in water and unlikely to contaminate waterways or food chains.

12. DISPOSAL CONSIDERATION

If not reusable, dispose of at approved landfill site. Disposal must be in accordance with Commonwealth, State and local government regulations.

13. TRANSPORT INFORMATION

Transport may be regulated in some countries although the product is classified as Non-Dangerous Goods according to the Australian Code for the Transport of Dangerous Goods by road and rail (ADG) and international codes, IATA and IMDG. Trucks however should be covered when transporting dry bulk product to prevent dust creation.

14. REGULATORY INFORMATION

Poisons Schedule: None allocated

15. OTHER INFORMATION

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End of Safety Data Sheet